

IN THE CLAIMS:

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1. A method for simultaneously determining multiple individual chemical concentrations of a liquid stream comprising:

subjecting at least a segment of the stream to ultraviolet light where the light penetrates a short distance into the segment and the effective path length of the light is a function of the refractive index of the segment;

generating an ultraviolet absorption spectrum from said ultraviolet penetration of the sample over a wavelength from 190 to 300 nm; and

analyzing the ultraviolet absorption spectrum by a regression method to determine the individual chemical concentrations of the liquid stream.

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8. A method according to claim 7 wherein the measured individual chemical concentrations of the kraft liquor are selected from sodium hydroxide, sodium sulfide, and sodium carbonate.

9. A method for simultaneously determining the sodium hydroxide, sodium sulfide, and sodium carbonate concentrations of a kraft liquor stream comprising:

generating an ATR-UV absorbency spectrum of the liquor over a wavelength of 190 to 300 nm;

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analyzing the ultraviolet absorption spectrum by a regression method to determine the concentrations of sodium hydroxide, sodium sulfide, and sodium carbonate in the liquor.

10. A method according to claim 9, further comprising controlling operation of a kraft cooking digester recausticizing unit, white liquor oxidization reactor or chemical recovery furnace in response to the determined sodium hydroxide, sodium sulfide, and sodium carbonate concentrations.

REMARKS

Favorable reconsideration of this application, as amended and in light of the following discussion is respectfully requested. Claims 1-18 are pending. Claims 1 and 8-10 have been amended. The amendments to claims 1 and 8-10 are clarifying only and do not reduce the scope of the claims. No new matter has been introduced by these amendments.

First, Applicants note that the above-captioned application inadvertently did not include a government interest statement at the time of filing. This invention was developed with the support of the Department of Energy. An appropriate statement of government interest has been added before the first paragraph of this application.

Applicants would thank the Examiner for indicating that claims 12-13 and 15 are allowable.

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